Remarks

Claims 1-4, 7, 8-9, and 13-14 remain in this application. The Applicants have canceled claims 2 and 12, added claims 13 and 14, and withdrew in response to a restriction requirement claims 5, 6, 10, and 11. The Applicants have not added any new matter.

The Examiner found that the sequence listing fails to comply with the requirements of 37 C.F.R. §§ 1.821-1.825, but did not identify the defects that led him to make this finding. The Applicants submit with this Amendment a new sequence listing, in both computer-readable and written form, complying with these requirements. The Applicants have checked this sequence listing for errors using the Patent Office's Checker (version 3.17) program; the program does not identify any errors.

The Examiner rejected claims 1-4, 7-9, and 12 under 35 U.S.C. § 112, first paragraph, stating that the specification teaches only one protein, SEQ ID NO:1, that is the G3BP protein and is expressed in tumor cells. The Applicants have amended claim 1 to recite SEQ ID NO:1. Claims 3, 4, and 7-9 depend, either directly, or indirectly, from claim 1. The Applicants respectfully submit that these claims, as amended, comport with the requirements of § 112, first paragraph, and request that the Examiner withdraw the rejection under that section.

The Examiner rejected claims 4, 7-9, and 12 under § 112, first paragraph, stating that the specification does not provide evidence that the claimed biological materials are known and readily available to the public, or reproducible from the written description. The Examiner stated that a proper biological deposit would address this rejection. He invited the Applicants to provide assurance regarding the deposit the specification refers to (G3BP 1F1 1D1), stating that this would establish a proper biological deposit. Accordingly, the Applicants submit the declaration of Roxane Dernoncour, a patent senior manager affirming that:

- during pendancy of the application, access to the deposit will be afforded the Commissioner upon request;
- all restrictions upon the availability to the public of the deposited biological material will be irrevocably removed upon the granting of a patent on this application;
- the deposits will be maintained in a public depository for a period of at least thirty years from the date of deposit or for the enforceable life of the patent or for a period of five years after the date of the most recent request for the

furnishing of a sample of the deposited biological material, whichever is longest; and

• the deposits will be replaced if they should become nonviable or non-replicable.

In view of this declaration, the Applicants respectfully request the Examiner to withdraw the rejection under § 112, first paragraph.

The Examiner rejected claims 1-3, 7-8, and 12 under 35 U.S.C. § 103(a) in view of Parker *et al.* (Molecular and Cellular Biology 16:2561-2569, 1996, IDS #8), Schaffhausen (Hybridoma Technology in the Biosciences and Medicine, PTO 892, #12) and Harlow *et al.* (Antibodies, a Laboratory Manual, Cold Spring Harbor Laboratory, Chapters 6 and 7, 1988). The Applicants respectfully traverse this rejection.

The claims, as amended, are directed to antibodies that recognize an epitope between amino acids 1 and 144 of SEQ ID NO:1 and that induce apoptosis in tumor cells. The Applicants respectfully submit that the prior art does not disclose or suggest such antibodies; that the references the Examiner cited, even when combined, do not disclose or suggest such antibodies; and that one of skill in the art – even having the cited references before him or her – would still not be able to arrive at the antibodies of the invention.

As the Examiner notes, Parker *et al.* do not teach antibodies that recognize residues 1-144 or 1-73 of G3BP. Schaffhausen is unhelpful. He tells us that there are "several considerations in choosing a sequence" with which to make an antibody. At 361. Among these are hydrophilicity and conformation, each of which have many considerations within them. With respect to conformation, for example, Schaffhausen writes of computer programs that attempt to predict secondary protein structure; of the contribution of murine leukemia virus glycopolypeptide to structure calculation; of β-turns and their role in protein recognition; of the significance of proline; and so forth. He does states that "very often the sequences at the ends of proteins have been chosen . . . [because] the ends of the molecule may be less restricted in their conformation" (at 362), but this, too, is only one factor among many, and it is even only a possibility: note that the ends of the molecule only <u>may</u> be less restricted; there is no guarantee.

Schaffhausen establishes merely that sequence selection is unpredictable. Consider, for example, the variability in sequence length: in a survey of 80 sequences, 22.5% were 6-9 residues long; 17.5% were 10-12 residues long; 25%

were 13-15 residues long; and 35% were more than 15 residues long. This variability demonstrates that there is no uncertain rule guiding sequence selection.

Harlow *et al.* teach the production of monoclonal antibodies but do not disclose or suggest the portion of G3BP that such antibodies should recognize. The reference is of even more limited usefulness than Schaffhausen.

It is impossible to read Schaffhausen and Harlow *et al.* and conclude that an antibody against residues 1 to 144 of SEQ ID NO:1 has a desirable therapeutic effect. At most, one can say that it might be desirable to <u>try</u> to create an antibody against such residues because "the ends of a molecule <u>may</u> be less restricted in their conformation." But whether it is obvious to try to create something is besides the point. <u>See Hybritech, Inc. v. Monoclonal Antibodies, Inc.</u>, 231 U.S.P.Q. 81 (Fed. Cir. 1986) (construing earlier precedent as holding "'Obvious to try' is improper consideration in adjudicating obviousness issue."); <u>Amgen, Inc v. Chugai Pharmaceutical Co.</u>, 18 U.S.P.Q.2d 1016, 1023 (Fed. Cir. 1991) ("While the idea of using the monkey gene to probe for a homologous human gene may have been obvious to try, the realization of that idea would not have been obvious.").

What matters is whether the claimed composition is obvious in light of the prior art: whether the prior art discloses or suggests the features of the claimed composition is the question; whether it <u>might</u> be desirable to merely <u>try</u> to create it is not.

The <u>only</u> teaching that an antibody against residues 1 to 144 of G3BP has a desirable therapeutic effect comes from the application itself. The Examiner appears to recognize this, writing, for example, that "it would be obvious to produce antibodies to the amino terminus and as such it would be obvious that such an antibody would induce apoptosis <u>as evidenced form the specification</u>." Office Action, at 10 (emphasis added). But it is impermissible to use the Applicants' own specification against them in this way: "[t]he invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time." <u>Interconnect Planning Corp. v. Feil</u>, 227 U.S.P.Q. 543, 547 (Fed. Cir. 1985).

In view of the foregoing, the Applicants respectfully submit that the claims 1, 3, and 7-8, as amended, are not obvious in light of Parker *et al.*, Schaffhausen, or Harlow *et al.*, whether viewed alone or in combination. The Applicants respectfully request that the Examiner withdraw the objection under § 103(a).

The Examiner rejected claims 1-3, 7-8, and 12 under § 103(a) as obvious in view of Duchesne *et al.* (U.S. Patent No. 5,886,150), Schaffhausen, Harlow *et al.*

and the Applicants' specification itself. The Applicants respectfully traverse this rejection.

Duchesne discloses the G3BP protein, but, like Parker *et al.*, Schaffhausen, and Harlow *et al.*, does not disclose or suggest that an antibody against residues 1 to 144 of G3BP has a desirable therapeutic effect. The only such suggestion comes from the Applicant's specification. For the same reasons as stated above, Duchesne, whether viewed alone or in combination with Schaffhausen or Harlow *et al.*, cannot render the antibodies of the invention obvious. Accordingly, the Applicants respectfully request that the Examiner withdraw the objection under § 103(a).

The Applicants respectfully submit that the claims, as amended, are in condition for allowance, and respectfully request early, favorable action on the application. Should the Examiner believe that an interview would advance the prosecution of this application, the Applicants invite him to contact the undersigned at 908.231.3444.

Respectfully submitted,

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